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TRANSMITTAL FORM

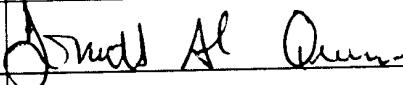
(to be used for all correspondence after initial filing)

		Application Number	09/899,814
		Filing Date	July 5, 2001
		First Named Inventor	Stephen delCardayre
		Group Art Unit	Unassigned
		Examiner Name	Unassigned
Total Number of Pages in This Submission		Attorney Docket Number	02-103110US

ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to Group
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment / Response	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition Routing Slip (PTO/SB/69) and Accompanying Petition	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input checked="" type="checkbox"/> Additional Enclosure(s) (please identify below):
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Authorization to Charge Deposit Account Please charge Deposit Account No. 50-0893 for any additional fees associated with this paper or during the pendency of this application, including any extensions of time for consideration of the documents enclosed.		
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Jonathan Alan Quine Reg. No. 41,261, The Law Offices of Jonathan Alan Quine
Signature	
Date	November 27, 2001

CERTIFICATE OF MAILING

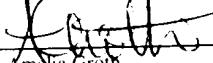
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Typed or printed name	Amelia Groth		
Signature		Date	November 27, 2001



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Assistant Commissioner for Patents,
Washington, D.C. 20231,
On November 27, 2001

The Law Offices of Jonathan Alan Quine

By 
Amelia Groth

Attorney Docket No. 02-103110US
Client Ref. No. 0163.210US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Stephen delCardayre, *et al.*

Application No.: 09/899,814

Filed: July 5, 2001

For: MOLECULAR BREEDING OF
TRANSPOSABLE ELEMENTS

Examiner: Unassigned

Art Unit: Unassigned

INFORMATION DISCLOSURE
STATEMENT UNDER 37 CFR § 1.97 and
§ 1.98

Assistant Commissioner for Patents
Washington , D.C. 20231

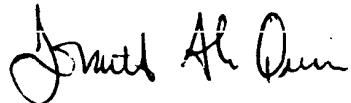
Sir:

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 50-0893. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,



Jonathan Alan Quine
Reg. No. 41,261

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JAQ:ag

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DEC 19 2001(Modified) PTO/SB/08A-B (10-96)
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Substitute for form 1449A-B/PTO

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete if Known	
Application Number	09/899,814
Filing Date	July 5, 2001
First Named Inventor	Stephen del Cardayre
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	02-103110US

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
	AA	5,512,463		Stemmer	04-30-1996	
	AB	5,514,588		Varadaraj	05-07-1996	
	AC	5,605,793		Stemmer	02-25-1997	
	AD	5,763,239		Short et al.	06-09-1998	
	AE	5,789,228		Lam et al.	08-04-1998	
	AF	5,811,238		Stemmer et al.	09-22-1998	
	AG	5,814,473		Warren et al.	09-29-1998	
	AH	5,824,469		Horwitz et al.	10-20-1998	
	AI	5,830,696		Short	11-03-1998	
	AJ	5,830,721		Stemmer et al.	11-03-1998	
	AK	5,834,252		Stemmer et al.	11-10-1998	
	AL	5,837,458		Minushull et al.	11-17-1998	
	AM	5,866,363		Pieczenik	02-02-1999	
	AN	5,876,997		Kretz	03-02-1999	
	AO	5,925,749		Mathur, et al.	07-20-1999	
	AP	5,928,905		Stemmer, et al.	07-27-1999	
	AQ	5,939,250		Short, Jay M.	08-17-1999	
	AR	5,939,300		Robertson, et al.	08-17-1999	
	AS	5,942,430		Robertson, et al.	08-24-1999	
	AT	5,948,666		Callen, et al.	09-07-1999	
	AU	5,958,672		Short, Jay M.	09-28-1999	
	AV	5,958,751		Murphy, et al.	09-28-1999	
	AW	5,962,258		Mathur, et al.	10-05-1999	
	AX	5,962,283		Warren et al.	10-05-1999	
	AY	5,965,408		Short, Jay M.	10-12-1999	
	AZ	5,985,646		Murphy, et al.	11-16-1999	
	BA	6,001,574		Short et al.	12-14-1999	

EXAMINER: _____ (initials) _____ considered _____ (initials) _____ citation(s) in conformance with MPEP section 1411. _____ (initials) _____ in nonconformance and not considered. _____ (initials) _____ made copy of cited document(s) available to applicant(s). _____ (initials) _____

Examiner _____ Date Considered _____

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Examiner Name	Unassigned
Attorney Docket Number	02-103110US

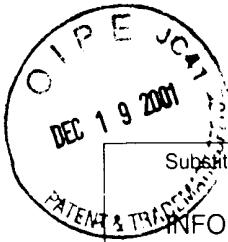
BB	6,004,788	Short	12-21-1999	
BC	6,030,779	Short	02-29-2000	
BD	6,054,267	Short	04-25-2000	
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BF	6,096,548	Stemmer	08-01-2000	
BG	6,117,679	Stemmer	09-12-2000	
BH	6,132,970	Stemmer	10-17-2000	
BI	6,165,793	Stemmer	12-26-2000	
BJ	6,168,919	Short	01-02-2001	
BK	6,171,820	Short	01-09-2001	
BL	6,174,673	Short, et al.	01-16-2001	
BM	6,180,406	Stemmer	01-30-2001	
BN	6,238,884	Short et al.	05-29-2001	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
	BO	WO	97/07205		Novo Nordisk A/S	02-27-1997		
	BP	WO	97/20078		Affymax Technologies	06-05-1997		
	BQ	WO	97/25410		Novo Nordisk A/S	07-17-1997		
	BR	WO	97/35957		Maxygen, Inc.	10-02-1997		
	BS	WO	97/35966		Maxygen, Inc.	10-02-1997		
	BT	WO	97/44361		Recombinant Biocatalysis Inc.	11-27-1997		
	BU	WO	97/48416		Recombinant Biocatalysis, Inc.	12-24-1997		
	BV	WO	97/48717		Recombinant Biocatalysis Inc	12-24-1997		
	BW	WO	97/48794		Recombinant Biocatalysis Inc	12-24-1997		

Examiner	Date Considered
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EXAMINER Initials reference considered whether or not citation is in conformance with MPEP rules and/or whether or not significance and/or relevance is apparent from the citation. If citation is not considered, enter N/A.



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		Examiner Name	Unassigned		
		Attorney Docket Number	02-103110US		

	BX	WO	98/00526		Recombinant Biocatalysis Inc	01-08-1998		
	BY	WO	98/01581		Recombinant Biocatalysis Inc	01-15-1998		
	BZ	WO	98/13485		Maxygen, Inc.	04-02-1998		
	CA	WO	98/13487		Maxygen, Inc.	04-02-1998		
	CB	WO	98/24799		Diversa Corp.	06-11-1998		
	CC	WO	98/27230		Maxygen, Inc.	06-25-1998		
	CD	WO	98/28416		Novo Nordisk A/S	07-02-1998		
	CE	WO	98/31837		Maxygen, Inc.	07-23-1998		
	CF	WO	98/36080		The Dow Chemical Company	08-20-1998		
	CG	WO	98/41622		Novo Nordisk A/S	09-24-1998		
	CH	WO	98/41623		Novo Nordisk A/S	09-24-1998		
	CI	WO	98/41653		Novo Nordisk A/S	09-24-1998		
	CJ	WO	98/42832		California Institute of Technology	10-01-1998		
	CK	WO	98/48034		Diversa Corp.	10-29-1998		
	CL	WO	98/58085		Diversa Corp.	12-23-1998		
	CM	WO	99/07837		Diversa Corp.	02-19-1999		
	CN	WO	99/08539		Diversa Corp.	02-25-1999		
	CO	WO	99/10472		Diversa Corp.	03-04-1999		
	CP	WO	99/10539		Diversa Corp.	03-04-1999		
	CQ	WO	99/19518		Diversa Corp.	04-22-1999		
	CR	EP	0911396A2		Maxygen, Inc.	04-28-1999		
	CS	WO	99/21979		Maxygen, Inc.	05-06-1999		
	CT	EP	0911396A3		Maxygen, Inc.	05-06-1999		
	CU	WO	99/23107		Maxygen, Inc.	05-14-1999		
	CV	WO	99/23236		Diversa Corp.	05-14-1999		

Examiner

Date

Considered

XAMINER: Initial reference considered whether or not citation is relevant under 37 CFR 1.56. If citation is not considered, initial 'X' in column 1 and 'N/A' in column 2.

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DEC 19 2001(Modified) PTO/SB/08A-B (10-96)
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PATENT & TRADEMARK OFFICE Institute for form 1449A-B/PTO				Complete if Known		
				Application Number	09/899,814	
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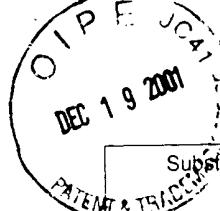
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	CY	WO	99/41368		Maxygen, Inc.	08-19-1999		
	CZ	WO	99/41369		Maxygen, Inc.	08-19-1999		
	DA	WO	99/41383		Maxygen, Inc.	08-19-1999		
	DB	WO	99/41402		Maxygen, Inc.	08-19-1999		
	DC	WO	99/45154		Diversa Corp.	09-10-1999		
	DD	WO	99/57128		Maxygen, Inc.	11-11-1999		
	DF	WO	99/65927		Maxygen, Inc.	12-23-1999		
	DF	WO	00/42560		Maxygen, Inc.	07-20-2000		
	DG	WO	00/42561		Maxygen, Inc.	07-20-2000		
	DH	WO	00/53744		Diversa Corporation	09-14-2000		
	DI	WO	00/58517		Diversa Corporation	10-05-2000		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	DJ	Chang, C., et al. (1999) "Evolution of a cytokine using DNA family shuffling." <i>Nature Biotechnology</i> 17:793-797.	
	DK	Christians, F.C. et al., (1999) "Directed evolution of thymidine kinase for AZT phosphorylation using DNA family shuffling." <i>Nature Biotechnology</i> 17:259-264.	
	DL	Coco et al., (2001) "DNA shuffling method for generating highly recombined genes and evolved enzymes" <i>Nature Biotechnology</i> vol. 19 pp. 354-359	
	DM	Crameri et al., (1993) "10(20)-Fold aptamer library amplification without gel purification," <i>Nuc. Acids Res.</i> 21(18):4410.	
	DN	Crameri, A. & Stemmer W.P.C. (1995) "Combinatorial multiple cassette mutagenesis creates all the permutations of mutant and wildtype cassettes." <i>Biotechniques</i> 18:194-195.	
	DO	Crameri, A. et al. (1996) "Improved green fluorescent protein by molecular evolution using DNA shuffling." <i>Nature Biotechnology</i> 14:315-319.	
	DP	Crameri, A. et al. (1996) "Construction and evolution of antibody-phage libraries by DNA shuffling." <i>Nature Medicine</i> 2:100-103.	

Examiner	Date Considered

EXAMINER Initials of reference considered, whether or not citations are confirmed with respect to each claim, and the date of this communication:



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First Named Inventor	Stephen del Cardayre
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	02-103110US

	DQ	Crameri, A. et al., (1997) "Molecular evolution of an arsenate detoxification pathway by DNA shuffling." <i>Nature Biotechnology</i> 15:436-438	
	DR	Crameri, A. et al., (1998) "DNA shuffling of a family of genes from diverse species accelerates directed evolution." <i>Nature</i> 391:288-291.	
	DS	Gates, C.M. et al., (1996) "Affinity selective isolation of ligands from peptide libraries through display on a lac repressor 'headpiece dimer'. <i>Journal of Molecular Biology</i> 255:373-386.	
	DT	Minshull, J., Stemmer, W.P.C. (1999) "Protein evolution by molecular breeding." <i>Current Opinion in Chemical Biology</i> 3:284-290.	
	DU	Ness, J. et al., (1999) "DNA shuffling of subgenomic sequences of subtilisin." <i>Nature Biotechnology</i> 17:893-896.	
	DV	Patten, P.A. et al., (1997) "Application of DNA Shuffling to Pharmaceuticals and Vaccines." <i>Current Opinion in Biotechnology</i> 8:724-733.	
	DW	Pelletier, Joelle N., (2001) "A Rachitt for our toolbox" <i>Nature Biotechnology</i> vol. 19, p. 314-315	
	DX	Stemmer, W.P.C. (1994) "DNA Shuffling by random fragmentation and reassembly: In vitro recombination for molecular evolution." <i>PNAS</i> 91:10751	
	DY	Stemmer, W.P.C. (1994) "Rapid evolution of a protein in vitro by DNA shuffling." <i>Nature</i> 370:389-391.	
	DZ	Stemmer, W.P.C. (1995) "The Evolution of Molecular Computation." <i>Science</i> 270:1510	
	EA	Stemmer, W.P.C. (1995) "Searching Sequence Space." <i>Bio/Technology</i> 13:549-553.	
	EB	Stemmer, W.P.C. (1996) "Sexual PCR and Assembly PCR." In: <i>The Encyclopedia of Molecular Biology</i> . VCH Publishers, New York. pp. 447-457.	
	EC	Stemmer, W.P.C. & Soong, N.W. (1999) "Molecular breeding of viruses for targeting and other clinical properties." <i>Tumor Targeting</i> 4:59-62.	
	ED	Zhang, J. et al., (1997) "Directed evolution of an effective fucosidase from a galactosidase by DNA shuffling and screening." <i>Proceedings of the National Academy of Sciences, USA</i> 94:4504-4509.	

Examiner	Date Considered
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EXAMINER: initial reference considered whether or not citation is in conformance with MPEP 600.07(d)(2)(iii)(a) (i.e. information and/or considered). include copy of document(s) cited in Remarks section of application.